IVANOV, V.I.; CHUKSANOVA, A.A.; SERGEYEVA, L.L.

Nitration of hydrolytic lignin. Izv.AN SSSR Otd.khim.nauk no.4:503-509
Ap '57.   (MIRA 10:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
              (Nitration)   (Lignin)

IVANOV, V. I

KUZNETSOVA, Z.I.; KAVERZNEVA, Ye.D.; IVANOV, V.I.

Influence of the ketone group on the stability of glucosidic linkage. Izv. AN SSSR. Otd. khim. nauk no.5:655-656 My '57.

(MIRA 10:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR.

(Ketones)   (Chemical structure)

IVANOV, V. I., (Prof.)

"On Cellulose Qualities and their Application in Chromatography."

Inter-vuz Scientific Conference(Mezhvuzovskiye nauchnyye Konferentsii)

Vestnik Vysshey Shkoly, 1957, # 9, pp. 73 - 76 (USSR)

Abst: In January 1957, the Second All-Union Conference on Photosynthesis
took place, organized by the institute of Plant Physiology of the Academy
of Sciences, USSR, and by the Facultys of Soil-Biology of the Moskva
University. About 700 representative of 130 scientific-research
institutes, vuzes and ministries were present. The introductory report
was made by Academician A. L. Kursanov who described the development of
photosynthesis during the last ten years and invited the scientists to
concentrate their work on the application of radioactive and stable
isotopes. Nearly 100 reports were read: 13 on photochemistry, ix 9, on the
investigation of chloroplast structure, 19 on the investigation of pigments,
9 on the photosynthesis of water plants, bacteria, etc.

4E2c (1)

and V. S. Ivanova. U.S.S.R. 110,134 [Feb. 25, 1958].

Oxidized cellulose is used as the adsorbent for the sepn.

M. Flosch

V. I. IVANOV, D. I. LISITSIN, M. S. BARDINSKAYA, M. T. SMIRNOVA-IKONNIKOVA, Yu. V. PERUANSKIY, G. A. LUKOVNIKOVA

"On carbohydrates of plant origin."

The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms. Conference in Moscow. January 28 to January 30 1958.

(VAN SSSR, No 6, 1958)

Ivanov V.I.

AUTHORS:

Yermolenko, I. N., Zhbankov, R. G.,   62-2-27/28
Ivanov, V. I., Lenshina, N. Ya., Ivanova, V. S.,

TITLE:

The Investigation of Some Oxidation Reactions of Cellulose by
the Method of Infrared Spectroscopy (Issledovaniye nekotorykh
okislitel'nykh reaktsiy tsellyulozy metodom infrakrasnoy
spektroskopii)

PERIODICAL:

Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2,
pp. 249-251 (USSR)

ABSTRACT:

In the present paper the authors use the hitherto known methods
and investigation results in the field of adsorption spectro-
scopy for the purpose of finding out the directions of reaction
with subsequent formation of functional groups in the compli-
cated structure of the respective oxidation products of cellu-
lose. The modifications in the infrared spectra connected with
the formation of carboxyl- and carboxyl-groups have hitherto
been determined. The presence of carboxyl groups was judged ac-
cording to the adsorption band at $5,57\mu$ (oscillation C=O). This
method is, however, not reliable. It is well-known that the ad-
sorption band at 7μ depends exclusively on the velocity of de-

Card 1/2

The Investigation of Some Oxidation Reactions of Cellulose by   62-2-27/28
the Method of Infrared Spectroscopy

formation of the CH_2-groups. Consequently the oxidation-trans-
formation of the carbon atom can be estimated according to the
modification of the intensity of adsorption (according to the
wave length). Monocarboxyl cellulose contains so-called loss-
carboxyls. The band at 11μ is not connected with carboxyl
groups. The authors also investigated the oxidation of C_6 with
the action of N_2O_4 in the elementary member of the macromole-
cule of cellulose in dependence on the general accumulation of
carboxyls (see figure 4). The adsorption band at 11μ charac-
terizes the occurrence of aldehyde-groups in dialdehyde cellu-
lose in a bound form.There are 4 figures, and 1o references,
6 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry imeni N.D. Zelinskiy AN USSR
                (Institut organicheskoy khimii im. N.D. Zelinskoho Akademii
                nauk SSSR)

SUBMITTED: March 7, 1957

AVAILABLE: Library of Congress
Card 2/2   1. Cellulose-Oxidation reduction reactions   2. Infrared
                    spectroscopy-Applications

AUTHORS: Ivanov, V. I., Kuznetsova, Z. I.   62-58-5-24/27

TITLE: On the Chemical Nature of Weak Bonds in the Cellulose-Molecule
             (O khimicheskoy prirode slabykh svyazey v molekule tsellyulozy)
             Communication 1. The Influence of the Carboxyl Groups in the
             Cellulose-Molecule on the Stability of the Glucoside-Bond
             (Soobshcheniye 1, Vliyaniye karboksil'nykh grupp v molekule
             tsellyulozy na ustoychivost' glyukozidnoy svyazi)

ABSTRACT: Great attention has been paid during recent years to the investi-
             gation of the details of the chemical structure of the cellulose
             molecule (Ref 1), especially because some properties of cellu-
             lose cannot be explained by the previously known chemical struc-
             ture of the same (Ref 2,3). It was found by the example of the
             investigated model-compounds of the strontium-salt of the D'-
             -methoxy-D-oxy-methylglycolic acid (formula II) and of the α-
             -methyl-glucoside (formula III) that COOCH-groups reduce the
             stability of the acetal-bond in an acid medium. It was further
       found that dicarboxyl-groups in the position 2,3 can be the cause for

Card 1/2

On the Chemical Nature of Weak Bonds in theCellulose-   62-58-5-24/27
-Molecule. Communication 1. The Influence of the Carboxyl Groups in the Cellu-
lose-Molecule on the Stability of the Glucoside-Bond

> the weakening of the glucoside-bond of the cellulose-molecule
> in an acid medium. There are 2 tables and 11 references, 5 of
> which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo Akademii
               nauk SSSR (Institute for Organic Chemistry imeni N.D. Zelinskiy
               AS USSR)

SUBMITTED: January 3, 1958

               1. Cellulose—Chemical analysis

Card 2/2

AUTHORS: Ivanov, V. I., Lenshina, N. Ya.,   62-58-6-22/37
                Ivanova, V. S.

TITLE: On the Characteristic Features of the Oxidation of Cellulose
                by Sodium Periodate and Sodium Chlorite (Ob osobennostyakh
                okisleniya tsellyulozy peryodatom natriya i khloritom natriya)

ABSTRACT: On the basis of the works by Jackson (Dzhekson) and Hudson
                (Gudson)(Refs 1,2,3-9) the authors investigated the properties
                of the preparations (formulae I and II) and found that the
                said preparations separate CO_2 (under the conditions of decarbo-
                xylation). On the strength of results obtained already earlier
                (and of spectroscopic data) (Refs 10,11) the authors assumed
                that partial oxidation extends over the 6.carbon atom (Ref 12).
                Thus, sodium periodate oxidizes not only the α-glycol grouping
                but also the hydroxyls of cellulose in position (6) up to the
                aldehyde-and carboxyl groups. There are 4 figures, 3 tables,
Card 1/2   and 15 references, 4 of which are Soviet.

On the Characteristic Features of the Oxidation of   62-58-6-22/37
Cellulose by Sodium Periodate and Sodium Chlorite

ASSOCIATION: Institut organicheskoy khimii im.N.D.Zelinskogo (Institute of
               Organic Chemistry imeni N.D.Zelinskiy, AS USSR)

SUBMITTED: December 28, 1957

               1. Cellulose---Oxidation   2. Sodium salts---Chemical reactions

Card 2/2

5(4), 5(3)

AUTHORS:

Yermolenko, I. N., Zhbankov, R. G., Lenshina, N. Ya., Ivanova, V. S., Ivanov, V. I.

TITLE: Spectroscopic Investigation of the Consumption of Hydroxyl
           Groups of Cellulose on the Action of Nitrogen Dioxide
           (Spektroskopicheskoye issledovaniye raskhoda gidroksil'nykh
           grupp tsellyulozy pri deystvii na neye dvuokisi azota)

ABSTRACT: In this brief report the authors mention the transformations of
              hydroxyl groups of cellulose in their oxidation by means of
              nitrogen vapors. Cotton cellulose was oxidized under static
              conditions (Ref 5). The change of the hydroxyl groups during
              the course of reaction was determined according to the spectro-
              scopic method in the infrared range. The absorption spectra
              were taken according to the earlier described method (Ref 6)
              by means of the infrared spectrograph IKS-11 with an NaCl
              prism. It was found that the reaction takes a quasihomogeneous
              course. In the first stage mainly those products are accumulated

Card 1/2   which form due to the oxidation of primary hydroxyl groups and

SOV/62-58-12-19/22

Spectroscopic Investigation of the Consumption of Hydroxyl Groups of Cellulose
on the Action of Nitrogen Dioxide

in the second stage those products that form due to the
oxidation of primary and secondary hydroxyl groups. The results
obtained agree with the other papers (Refs 1,4).
There are 2 figures and 7 references, 6 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii
                nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy
                Academy of Sciences, USSR) Institut fiziki i matematiki
                Akademii nauk BSSR (Institute of Physics and Mathematics,
                Academy of Sciences, Belorussian SSR)

SUBMITTED: June 2, 1958

Card 2/2

IVANOV, V.I.; ZAKHAROV, B.A.

Basic properties of cellulose necessary for obtaining strong and
extra strong fibers. Bum. prom. 33 no.9:4-7 S '58.   (MIRA 11:10)

1. Institut organicheskoy khimii AN SSSR.
    (Cellulose) (Textile fibers, Synthetic)

5(2)

AUTHORS: Zakharov, B. A., Ivanov, V. I.,   SOV/20-122-5-18/56
Krylova, G. A., V'yunova, N. G.

TITLE: Molecular Homogeneity and Properties of Cellulose
             (Molekulyarnaya gomogennost' i svoystva tsellyulozy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 5,
             pp 814 - 816 (USSR)

ABSTRACT: For some time the opinion was prevalent that the
             molecular weight of cellulose as a highly molecular
             compound (Refs 1-4) amounted to about 500 000 (Ref 5).
             However, viscosimetric measurements and the retardation
             of oxydative degradation yielded a figure of about
             1, 600 000 for this weight (Refs 6-8). Recently
             this was confirmed (Refs 9-11). As early as 1939,
             strange and hardly explicable observations were made
             (Refs 12-13): the properties of strength of the
             natural cellulose fibres became obvious in a solid
             state at an average molecular weight $(\overline{M})$ of about
             32 000 and increase rapidly with an increase of $\overline{M}$

Card 1/4   up to 115 000; then the increase of strength is

constantly reduced up to 160 000 above which it
is the constant. Furthermore it was discovered
that cellulose is heterogeneous with respect to the
length of chain molecules (Refs 14, 15). Therefore
that above figure of molecular weight must be
considered as an average value depending undoubtedly
on the method of measuring. A general idea of the
heterogeneity of cellulose is offered by the average
coefficient of heterogeneity

$$\overline{U} = \frac{\overline{M}_{weight}}{\overline{M}_{num}} - 1, \text{ in which } \overline{M}_{weight} \text{ and } \overline{M}_{num} \text{ are the}$$

molecular weights: average by weight and numerical
average, respectively. In modern studies the hetero-
geneity of cellulose is described more completely
and more accurately by means of functions of integral
and differential calculus (Ref 16). At present
some tests are conducted in order to estimate the
changes in heterogeneity in different processes of
solution and production and to combine the heterogeneity

Card 2/4

Molecular Homogeneity and Properties of Cellulose   SOV/2o-122-5-18/56

with the quality of the cellulose products. This, however, was rather complicated and afforded little hope of success. The authors wanted to tackle the task of specifying the problem of chain molecule length. The more precise concept and meaning of homogeneity of cellulose served them well in this work. According to their opinion, two characteristics of homogeneity, which can be determined on the curve of mass distribution, are of decisive importance; a) the degree of homogeneity (mono-dispersion), which expresses the physical nature of the phenomenon. This characteristic is defined by the height and basis of the maximum on the curve. b) the other characteristic is determined by the degree of polymerization(P), which corresponds to the maximum. As a consequence, the super-molecular structure of cellulose (opposite position of molecules and inter-molecular bonds) can and must be determined by the degree of molecular homogeneity. The authors proved this in experiments. Nitric ethers produced from cellulose in finished

Card 3/4

Molecular Homogeneity and Properties of Cellulose   SOV/20-122-5-18/56

products were fractioned according to the method
of precipitation (Ref 18). Examples are given and
explained by means of curves (Fig 1, curves 1-4).
There are 1 figure and 19 references, 2 of which are
Soviet.

ASSOCIATION: Institut organisch oboy khimii im.N.D.Zelinskogo Akademii
               nauk SSSR (Institute of Organic Chemistry imeni N.D.
               Zelinskiy of the Academy of Sciences USSR)

PRESENTED: June 3, 1958, by P.A.Rebinder, Academician

SUBMITTED: May 25, 1958

Card 4/4

5(3)
AUTHORS: Ivanov, V. I., Zakharov, B. A.,   SOV/20-123-4-32/53
               Krylova, G. A., V'yunova, N. G.

TITLE: A Chemical Method of Homogenizing Cellulose With Respect to
                   Molecular Weight (Khimicheskiy metod gomogenizatsii tsell-
               yulozy po molekulyarnomu vesu)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 4,
               pp 691 - 692 (USSR)

ABSTRACT: In an earlier report by the authors (Ref 1) their theoretical
               ideas that the strength of the cellulose products is closely
               connected with the homogeneity of the cellulose with respect
               to the length of the chain molecules, was proved. From the
               data in publications it may be concluded that during the in-
               dividual production stages (Refs 3-6) no considerable homo-
               geneity of cellulose is obtained. The authors have investigated
               the absorption of acids by cellulose from aqueous solution.
               Cotton cellulose was used for these experiments as well as
               chemical (sulfate) wood pulp. It was treated with HNO_3

Card 1/3   (concentration 0.2 n at 92°) (cotton cellulose for 1 hour,

A Chemical Method of Homogenizing Cellulose With Respect   SOV/2o-123-4-32/53
to   Molecular Weight

chemical wood pulp for half an hour). Furthermore the cotton
cellulose was treated under the same conditions with HCl.
Figures 1 and 2 show the results obtained: the cotton cellulose
(Fig 1, Curves 1 and 2) is to a large extent heterogeneous with
respect to its molecular weight. The treatment of cotton
cellulose led to a degradation of long chain molecules with a
definite homogenization (Curve 4), whereas the effect of
nitric acid was accompanied by a considerable homogenization
(Curve 3). The treatment of the sulfate chemical wood pulp
according to the method of the institute   (IOKh AS USSR)
mentioned under Association leads to a physical-chemical homo-
genization of the cellulose. The maximum on the mass distri-
bution curve is at $P = 850$ (Fig 2, Curve 2). HNO_3 causes the
displacement of this maximum into the low-molecular range, i.e.
$P = 220$. The results obtained make it possible to draw the
conclusion that HNO_3 may be used for the homogenization
mentioned in the title. The high degree of homogenization can
be reached at a desired degree of polymerization by the
selection of the conditions of the combined physico-chemical
Card 2/3   homogenization (concentration, temperature, duration). Thus,

A Chemical Method of Homogenizing Cellulose With Respect   SOV/20-123-4-32/33
to   Molecular Weight

an appropriate strength of various cellulose products can
be obtained. There are 2 figures and 11 references, 3 of which
are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk
SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy
Academy of Sciences, USSR)

PRESENTED: July 11, 1958, by V. A. Kargin, Academician

SUBMITTED: June 20, 1958

Card 3/3

5(3)

AUTHORS: Lenshina, N. Ya., Ivanova, V. S.,   SOV/62-59-3-32/37
             Ivanov, V. I.

TITLE: On the Production of New Carboxyl Derivatives of Cellulose
             (O poluchenii novykh karboksil'nykh proizvodnykh tsellyulozy)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
             1959, Nr 3, p 559 (USSR)

ABSTRACT: In the present letter to the editor the authors write: carboxy-
             cellulose preparations were obtained by combined oxidation of
             cotton cellulose. They contained up to 50.8 % of carboxyl groups
             with respect to oxycellulose. In the determination of the posi-
             tion of the carboxyl groups in the glucose group structures
             (I), (II), and (III) were observed in the corresponding pro-
             duct. In this connection structure (II) was prevailing.
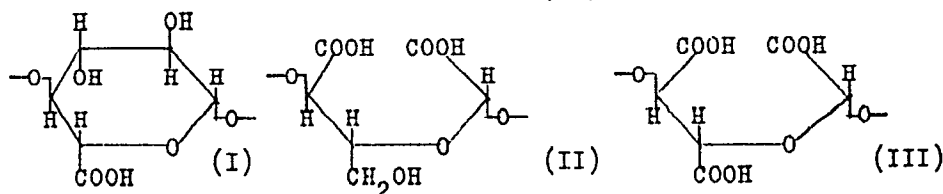
Card 1/2

On the Production of New Carboxyl Derivatives of   SOV/62-59-3-32/37
Cellulose

> The products obtained retain their fibrous structure after
> washing and drying. In comparison to dicarboxycellulose they
> are less hygroscopic. They have a high exchangeability up to
> 11.4 mg equivalents/g. The ion-exchange units of oxycelluloses
> which have been known up to now have an exchangeability of
> ~5 mg equivalents/g. The carboxy celluloses obtained are
> easily soluble in aqueous solutions of alkali.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk
SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of
the Academy of Sciences, USSR)

SUBMITTED: December 13, 1958

Card 2/2

5(3)   SOV/62-59-5-38/40
AUTHORS: Ivanov, V. I., Zakharov, B. A., Trukhtenkova, N. Ye.,
              Krylova, G. A.

TITLE: Letters to the Editor (Pis'ma redaktoru)

ABSTRACT: In earlier papers (Refs 1-3) the authors had shown that the
              strength of a hydrated cellulose fiber may be determined mainly
              from the homogeneity of the molecular weight of the cellulose.
              Accordingly, the molecular homogeneity of bleached sulfite
              paper with known strength characteristics was investigated
              after a single deformation (double folding). Papers of the
              type A, and papers made by the firms Aano and Serlakius were
              investigated. The mass distribution function in dependence on
              the degree of polymerization is represented by a figure for
              the various types of paper. Investigations showed that, in
              order to attain a high degree of strength, a very homogeneous
              cellulose in the range of polymerization above 2000 is necessary.
Card 1/2   This may be attained by using a cellulose for paper production,

Letters to the Editor   SOV/62-59-5-38/4o

      which was obtained by means of the chloride of potash method,
      or by homogenizing the cellulose by means of nitrohydrochloric
      acid. There are 1 figure and 3 Soviet references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
      nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy
      of the Academy of Sciences, USSR)

SUBMITTED: February 2, 1959

Card 2/2

5(2)

AUTHORS: Pavlenov, A. M., Plentjakova, V. M., I___, V. I.

TITLE: Qualitative Determination of Glyoxylic Acid by the Method of
                the Paper Chromatography (Kachestvennoe opredelenie gliok-
                lovoy kieloty metodom bumazhnoy khromatografii.)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdelenie khimicheskikh nauk,
                1959, Nr 7, pp 1335 - 1330 (USSR)

ABSTRACT: The qualitative determination of glyoxylic acid in cellulose
                and oxycellulose plays an important role in the clarification
                of the structure in cellulose and cellulose-containing materials
                In publications, this acid is usually determined by obtaining
                crystalline derivatives of the acid. The present paper deals
                with the possibility of carrying out a paper chromatographic
                determination. For this purpose, glyoxylic acid was determined
                in various solvent mixtures which are usually used for
                the determination of sugars: 1) ethyl acetate, acetic acid, water
                (5:1:5), 2) n-butanol-glacial acetic acid-water (4:1:5), 3)
                benzene-n-butanol-pyridine-water (1:5:3:3). In addition, it was
                determined from artificial mixtures with pentoses, hexoses,
Card 1/2   and organic acids (oxalic acid, tartaric acid, citric acid,

Qualitative Determination of Glyoxylic Acid by the Method SOV/62-59-7-30/39
of the Paper Chromatography

and succinic acid). On the paper, glyoxylic acid yielded
yellow stains on white background, hexoses brown stains, and
heptoses red stains. The values of R_f for glyoxylic acid and
sugars are specified in the table. The minimum identifiable
amount was 5γ in one stain. The solvent mixture 1 was made
use of for the determination of glyoxylic acid from organic
acids. Only the bright-yellow stains of glyoxylic acid appeared
on the paper chromatogram. There are 1 table and 7 references,
1 of which is Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy
of the Academy of Sciences, USSR)

SUBMITTED: December 29, 1958

Card 2/2

$\zeta(3)$

AUTHORS: Kuznetsova, Z. I., Ivanov, V. I.   SOV/62-59-9-31/40

TITLE: On the Comparable Stability of Glucoside Linkages in Cellulose
             and Its Models

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
             1959, Nr 9, pp 1678-1679 (USSR)

ABSTRACT: In the present paper the behavior of the acetal linkages in
             $1, \alpha$-methylglucoside (II), β-methylcellobioside (III), and
             cellulose (IV) in 97% acetic acid at room temperature is
             investigated. Cotton cellulose is depolymerized under the
             conditions mentioned from a state of 100% polymerization down to
             20% polymerization, but not further (Table 1). Under the same
             conditions α-methylglucoside, in the course of a year, is
             hydrolyzed except   for 2%. Subjected to the same treatment,
             (III) remained practically unchanged for half a year. From these
             observations it is concluded that cellulose molecules disintegrate

Card 1/2

On the Comparable Stability of Glucoside Linkages in   SOV/62-59-9-31/40
Cellulose and Its Models

at the weakened glucoside-glucose linkage. The degree of
hydrolyzation as a function of time is given in table 2. The
degree of polymerization was determined by viscosity
measurements. There are 2 tables and 2 Soviet references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk
SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the
Academy of Sciences, USSR)

SUBMITTED: February 27, 1959

Card 2/2

SHUL'GIN, V.N., insh.; ZHIGULENKO, L.N., nauchnyy sotrudnik; IVANOV, V.I., doktor tekhn.nauk

Production of woodpulp by alkaline chlorination. Bum.prom. 34 no.8:2-5 Ag '59.   (MIRA 12:12)

1. Gosplan SSSR (for Shul'gin). 2. Institut organicheskoy khimii AN SSSR im Zelinskogo (for Zhigulenko, Ivanov).
                    (Woodpulp)

5(1,3)

AUTHORS: Zakharov, B. A., Ivanov, V. I., Krylova, G. A.

TITLE: The Homogenization of Cellulose With Respect to Molecular.
Weight in the Process of Bleaching by Activated Oxidation

ABSTRACT: The results obtained by the authors and the data given in the
publications show that the usual chemical methods of cellulose.
working to hydrate cellulose fibers are not able to guarantee
the production of highly solid structural-homogeneous fibers.
Although the processes used change, as a rule, the heterogeneity
of the molecular weight, they do not cause a considerable homo-
geneity of cellulose. Therefore it became a topical object to
estimate the mentioned processes from the point of view of the
change in homogeneity and to change these processes in the
necessary direction. The treatment of cotton- as well as of
wood cellulose with diluted nitric acid causes a far-reaching
Card 1/3   homogeneity (Ref 3). In contrast to this, a modification

The Homogenization of Cellulose With Respect to   SOV/20-127-2-45/70
Molecular Weight in the Process of Bleaching by Activated Oxidation

of the usual factors alone is not successful (Ref 4). From
figure 1 follows that the usual bleaching of the sulphite cellu-
lose of wood only reduces the homogeneity (Ref 5). In this
connection it was interesting to modify the oxidation process
upon which the bleaching with sodium hypochlorite is based.
Therefore the authors investigated the topic mentioned in the
title. Urea served as activator. The cellulose preparations of
G. A. Krylova (Ref 6) were investigated. The figure 2,3 shows
the distribution of the molecular weight of the sulphate cellu-
lose which served, partly bleached and refined with alkali, as
initial cellulose. The figure 2:1 shows that no homogenization
proceeds if sodium hypochlorite influences this cellulose. A
considerable specific homogenization is, in contrast to this,
obtained, if the activated oxidation is used (preliminary treat-
ment of the cellulose with urea) and the cellulose treated with
hypochlorite oxidized after that. The above homogenization is
bound to be connected with the increased accessibility of the
long chain molecules for the oxidizing agent if the duration of
the activated oxidation amounts to only 1/10 of the usual one,
Card 2/3   and the content of carbonyl- and carboxyl groups in the bleached

The Homogenization of Cellulose With Respect to   SOV/2o-127-2-45/7c
Molecular Weight in the Process of Bleaching by Activated Oxidation

            celluloses is on the whole equal (Ref 6). The specific degrada-
            tion proceeding here increases the quantity of the molecules
            with the polymerization degree 800. It may therefore be ex-
            pected that the use of catalysts or activators will establish
            conditions which guarantee a specific degradation and increase
            of the homogeneity of cellulose with respect to its molecular
            weight in several chemical working processes of cellulose ma-
            terials and in their working to hydrate cellulose fibers.There
            are 2 figures and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk
            SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of
            the Academy of Sciences, USSR)

PRESENTED: March 21, 1959, by P. A. Rebinder, Academician

SUBMITTED: March 9, 1959

Card 3/3

IVANOV, V.I.

PHASE I BOOK EXPLOITATION   SOV/4984

International symposium on macromolecular chemistry. Moscow, 1960.

Mezhdunarodnyy simpozium po makromolekulyarnoy khimii SSSR, Moskva, 14-18 iyunya 1960 g.; doklady i avtoreferaty. Sektsiya III. (International Symposium on Macromolecular chemistry held in Moscow, June 14-18, 1960; Papers and Summaries) Section III. [Moscow, Izd-vo AN SSSR, 1960] 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Kashina.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

COVERAGE: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., ion exchange resins, semiconductor materials, etc., methods of catalyzing polymerization reaction, properties and chemical interactions of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No personalities are mentioned. References given follow the articles.

IVANOV, V.I.; LENSHINA, N.Ya.; IVANOVA, V.S.

Effect of the pyran ring on the acid hydrolysis of cellulose.
Izv.AN SSSR.Otd.khim.nauk no.6:1136-1138 Jl '60.
(MIRA 13:7)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii
nauk SSSR.
(Pyran) (Cellulose) (Hydrolysis)

LENSHINA, N.Y.; IVANOVA, V.S.; IVANOV, V.I.

Oxidation of dicarboxycellulose with nitrogen oxides. Izv. AN SSSR
Otd. khim. nauk no.1):1894-1896 O '60.   (MIRA 13:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk
SSSR.
     (Nitrogen oxile)   (Cellulose)

IVANOV, V.I.; LENSHINA, N.Ya.

Use of modified cellulose in analytical chemistry. Trudy kom.
anal. khim. 11:418-421 '60.   (MIRA 13:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
            (Cellulose) (Ion exchange)

KUZNETSOVA, Z.I.; IVANOV, V.I.

Influence of CHO groups in the cellulose molecule on the stability of the acetal bond in acid medium, as studied on model compounds. Izv. AN SSSR.Otd. khim. nauk no.11:2044-2045 N '60.
(MIRA 13:11)

1. Institut organicheskoy khimii im.N.D.Zelinskogo AN SSSR.
(Formyl group) (Cellulose)

IVANOV, V.I.; YERMOLENKO, I.N.; GUSEV, S.S.; LENSHINA, N.Ya.; IVANOVA, V.S.

Study of dialdehyde celluloses by means of infrared spectra. Izv.
AN SSSR.Otd. khim. nauk no.12:2249-2252 D '60.   (MIRA 13:12)

1. Institut organicheskoy khimii im.N.D.Zelinskogo AN SSSR.
                    (Cellulose--Spectra)

IVANOV, V.I.; KUZNETSOVA, Z.I.; LENSHINA, N.Ya.; IVANOVA, V.S.

Structure of cellulose chain molecules. Trudy LTA
no.91:33-37 '60.   (MIRA 15:12)

1. Institut organicheskoy khimii AN SSSR.
          (Cellulose)   (Molecules)

LENSHINA, N.Ya.; IVANOVA, V.S.; IVANOV, V.I.

Oxidation of dihydroxycellulose by nitrogen oxides.   Izv.AN SSSR Otd.
khim.nauk   no.3:519-521 Mr '61.   (MIRA 14:4)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
                    (Cellulose)   (Nitrogen oxide)

ZAKHAROV, B.A.; IVANOV, V.I.; MAL'TSEVA, A.L.; KRYLOVA, G.A.

Controlling the specificity of cellulose homogeneity by means of temperature in the course of treatment with dilute nitric acid. Izv. AN SSSR.Otd.khim.nauk no.5:926-927 My '61.   (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
                              (Cellulose)

KUZNETSOVA, Z.I.; IVANOV, V.I.

Dydrolytic degradation of D'-methoxy-D-hydroxymethyldethylene glycol in an acid medium. Izv.AN SSSR.Otd.khim.nauk no.5:930-931 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Diethylene glycol)

LENSHINA, N.Ya.; DENIKEYEVA, M.F.; IVANOV, V.I.

Oxidation of low molecular weight hydroxyl-containing compounds
with nitrogen oxides. Izv.AN SSSR.Otd.khim.nauk no.10:1899-1900
O '61.   (MIRA 14:10)

1. Institut organicheskoy khimii im.N.D.Zelinskogo AN SSSR.
        (Hydroxy compounds)   (Oxidation)

S/058/63/000/002/038/070
A062/A101

AUTHOR: Ivanov, V. I.

TITLE: On the cellulose molecule structure

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 19, abstract 2E115
               ("Vestn. AN KirgSSR", 1961, no. 1, 3 - 6)

TEXT: Proceeding from the fact that in macromolecules of cellulose there
are carboxyl and aldehyde groups (except the terminal) and also from the author's
study of oxidizing transformations of cellulose and of the kinetics of alkaline
and acid hydrolysis, the following conclusions are drawn: 1) the carboxyl and
aldehyde groups are found at the 2, 3 and 6 carbon atoms of the anhydroglucose
link of the cellulose; 2) not 0.1% (as computed by Freudenberg - (see Freudenberg
I. K. "Blomquist C., "Ber" 1935, v. 68, 2070) but a considerably larger portion
of the acetal bonds of the cellulose macromolecule is not glucoside-glucose. The
author describes the molecule structure by the formula

Card 1/2
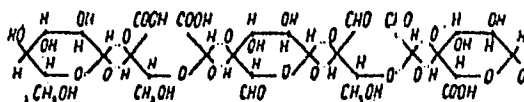
On the cellulose molecule structure

S/058/63/000/002/038/070
A062/A101

and emphasizes that in his opinion this formula describes more completely the chemical behavior of cellulose and provides a basis for obtaining durable, extra-durable and stable in use articles made of cellulose in general and of cotton in particular.

L. Pyrkov

[Abstracter's note: Complete translation]

Card 2/2

L 14954-63
WH/JD/HM/JG
EPF(n)-2/EWP(q)/EWT(m)/BDS/T-2   AFWTC/ASD/SSD   Pu-4
ACCESSION NR: AP3004264   S/0131/63/000/007/0327/0331

AUTHOR: Ivanov, V. I.; Pletenetskiy, G. Ye.; Nechiporenko, Ye. P.

TITLE: Effect of high-temperature oxide refractories on the thermal emf of
tungsten, molybdenum, and tantalum in vacuum at 1500C

SOURCE: Ogneupory*, no. 7, 1963, 327-331

TOPIC TAGS: thermocouple, high temperature, high-temperature thermocouple, in-
sulating ceramic material, ceramic insulator, magnesia, alumina, beryllia,
zirconia, tungsten, molybdenum, tantalum, tungsten wire, molybdenum wire, tantalum
wire, high-temperature oxide refractory, thermal emf, vacuum apparatus, tungsten-
molybdenum thermocouple, annealing, annealed wire, vacuum furnace

ABSTRACT: The stability of operation of high-temperature thermocouples made from
annealed or unannealed W, Mo, or Ta wires after prolonged contact at 1500C with
an insulating ceramic material— MgO, BeO, Al$_2$O$_3$, and ZrO$_2$ — has been studied in
the vacuum apparatus shown in Fig. 1 of Enclosure. W, Mo, and Ta unannealed
standard wires were heat-treated in contact with the pure powdered oxides for 15,
30, and 45 hr at 1500C in a vacuum (2 x 10^{-5} mm Hg). Wires of the same metals
but annealed in vacuum at 2000—2200C, were similarly treated. Temperature in

Card 1/3

L 14954-63
ACCESSION NR: AP3004264   O

the vacuum furnace was controlled with reference thermocouples: a VR-5/20 thermo-
couple and a platinum-platinum-rhodium thermocouple. Thermocouples were made by
joining the heat-treated wire with the untreated, as a reference metal. Thermal
emf generated between the hot and cold junctions of such thermocouples was measured
in the vacuum apparatus. The cold junctions of the reference thermocouple and of
the thermocouples under study were maintained in wet ice. It was shown that ex-
perimental thermal emf of the W, Mo, and Ta wires annealed and subsequently heated
for 45 hr in the oxides was not significantly different from that of the unan-
nealed wires, except in the case of W preheated in ZrO_2. Diameter of the wires
in the 0.2 to 1.0 mm range has no effect upon thermal emf stability. For each
metal the changes in thermal emf due to preheating in oxides were plotted against
preheating time at 1500C with each of the oxides or against temperature (in the
0—1500C range) at 45 hr of preheating. The data indicated that the thermal emf
of tungsten remains stable after contact with Al_2O_3, MgO, or BeO, but increases
considerably with ZrO_2; molybdenum thermal emf is stable after contact with
Al_2O_3, MgO, or ZrO_2 and changes slightly after 5-hr contact with BeO; and tantalum
thermal emf changes significantly after preheating in all the oxides. It was
noted that small changes in the thermal emf of W and Mo after contact with MgO

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L 14954-63
ACCESSION NR: AP3004264

are identical in magnitude and sign, so that the readings of a W-Mo thermocouple
would remain constant. Structural changes coincident with the changes in thermal
emf were revealed by photomicrographic analysis. Presumably, the dark parallel
bands observed on the tantalum grains are caused by oxidation. Tantalum becomes
brittle and is therefore not recommended for thermocouples. Orig. art. has: 6
figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 20Aug63   ENCL: 01

SUB CODE: PH, MA   NO REF SOV: 001   OTHER: 007

Card 3/43

IVANOV, Vladimir Ivanovich; ZAKHAROV, Boris Alekseyevich;
        BUTENKO, N.P., red.izd-va; POPOVA, M.G., tekhn.red.

[Development of and advances in the viscosimetric
method for determining the molecular weights of
macromolecular compounds] Razvitie i uspekhi visko-
zimetricheskogo metoda opredeleniia molekuliarnykh
vesov vysokomolekuliarnykh soedinenii. Frunze, Izd-
vo AN Kirg.SSR, 1962. 55 p.   (MIRA 17:2)

IVANOV, V.I.; DEREVENCHUK, L.N.; CHUPEYEVA, V.V.

Interaction between chlorine water and carbohydrates. Izv. AN SSSR
Otd.khim.nauk   no.1:181-182   Ja '62.   (MIRA 15:1)

1. Institut organicheskoy khimii AN SSSR.
                        (Carbohydrates) (Chlroine)

IVANOV, V.I. (Moskva); OSIPOV, K.A. (Moskva)

Effect of the rate of heating on the activation energy of iron
and steel recrystallization. Izv. AN SSSR. Otd. tekh. nauk. Met.
i topl. no.2:84-91 Mr-Ap '62.   (MIRA 15:4)
    (Activity coefficients) (Crystallization)

PAKHOMOV, A.M. [deceased]; PROSTYAKOVA , V.M.; IVANOV, V.I.

Determination of glyozylic and erythronic acids in decomposition products
of oxycelluloses. Izv.AN SSSR.Otd.khim.nauk no.9:1671-1672 S '62.
(MIRA 15:10)

1. Institut organicehskoy khimii im. N.D.Zelinskogo AN SSSR.
   (Glyoxylic acid)   (Erythronic acid)   (Oxycellulose)

KUZNETSOVA, Z.I.; IVANOV, V.I.; PROSTYAKOVA, V.M.

Oxidation of D'-methoxy-D-hydroxymethyldiglycolaldehyde by nitrogen oxides. Izv. AN SSSR. Ser.khim. no.9:1688-1690 S '63.
(MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Glycolaldehyde) (Nitrogen oxides)

KUZNETSOVA, Z.I.; IVANOV, V.I.; OVCHINNIKOVA, M.G.

Hydrolysis of acetal bonds in an acid medium in the compounds
modeling some modified celluloses. Izv. AN SSSR.Otd.khim.nauk
no.10:1886-1888 O '62.   (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
    (Cellulose)   (Acetal)   (Hydrolysis)

KUZNETSOVA, Z.I.; IVANOV, V.I.; DOBRZHINSKAYA, M.S.

Effect of the structure of elementary links of modified cellulose during its oxidation. Izv. AN SSSR.Otd.khim.nauk no.10:1888-1889 O '62.
(MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Cellulose)   (Oxidation)

RYABCHIKOV, D.I.; VOLYNETS, M.P.; ZARINSKIY, V.A.; IVANOV, V.I.

High-frequency titration. Report No.7: Carbonate compounds
of thorium. Zhur. anal. khim. 18 no.3:348-356 Mr'63.
(MIRA 17:5)

1. Institut geokhimii i analiticheskoy khimii imeni
Vernadskogo AN SSSR, Moskva.

IVANOV, V.I., akademik

Humic fertilizers produced from Kirghiz coals. Vest. AN SSSR
33 no.10:52-53 O '63.   (MIRA 16:11)

1. Institut organicheskoy khimii AN Kirgizskoy SSR i AN Kirgizskoy
SSR.

IVANOV, Vadim Ivanovich; OSIPOV, Kirill Afanas'yevich; MUKHIN,
G.G., red.; UL'YANOVA, O.G., tekhn. red.

[Recovery and recrystallization in metals at rapid heat-
ing] Vozvrat i rekristallizatsiia v metallakh pri byst-
rom nagreve. Moskva, Izd-vo "Nauka," 1964. 184 p.
                                          (MIRA 17:3)

UdJR

ACCESSION NR: AP4011148   s/0286/64/000/001/0014/0014

AUTHOR: Kuznetsova, A. G.; Ivanov, V. I.

TITLE: Method for preparing methylphenylcyclotetrasiloxane (Class C 07f; 12o, 26$_{03}$ from 2 January 1963) No 159521

SOURCE: Byul. izobret. i tovarn. znakov, no. 1, 1964, 14

TOPIC TAGS: methylphenylcyclotetrasiloxane, methylphenylsiloxane methylphenyl-dichlorosilane, silane compound, siloxane compound

ABSTRACT: A method for preparing methylphenylcyclotetrasiloxane by the hydrolysis of methylphenyldichlorosilane has the special feature that, for the purpose of simplifying the operation and increasing the yield of the product in question, the hydrolysis is carried out at 60-80°C with subsequent treatment of the obtained product by concentrated sulfuric acid. [Abstractor's note: this is a complete translation of the original article.] Orig. art. has: no graphics.

ASSOCIATION: none

SUBMITTED: 02Jan63   DATE ACQ: 10Feb64   ENCL: 00

Card 1/2

ACCESSION NR: AP4011148

SUB CODE: CH   NO REF SOV: 000   OTHER: 000

Card 2/2

IVANOV, V.I., akademik; KORNEVA, G.M.; SUCHKOVA, L.A.

Open cycles in the cellulose molecule. Dokl. AN SSSR 156 no. 5:
1112-1113 Je '64.   (MIRA 17:6)

1. Institut organicheskoy khimii AN KirgSSR. 2. AN KirgSSR (for
Ivanov).

IVANOV, V.I., otv. red.

[Study of the alkaloid content in plants of Kirghizia]
Issledovanie flory Kirgizii na alkaloidonosnost'. Frunze,
1965. 69 p.   (MIRA 18:11)
1. Akademiya nauk Kirgizskoy SSR, Frunze. Institut organi-
cheskoy khimii.

L 22486-66   EWT(1)/T   JK

ACC NR: AP5024152   SOURCE CODE: UR/0216/65/000/005/0700/0713

AUTHOR: Zavil'gel'skiy, G. B.; Kriviskiy, A. S.; Ivanov, V. I.

ORG: Institute of Radiation and Physico-Chemical Biology AN SSSR (Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR)

TITLE: Inactivating and mutagenic action of UV rays on extracellular bacterio-phage

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 5, 1965, 700-713

TOPIC TAGS: UV ray, bacteriophage, ~~~~~, mutagenic effect, phage inactivation

ABSTRACT: Effect of UV irradiation (λ = 254 mm) were tested on the extracel-lular bacteriophage sd Escherichia coli SK. Kinetics of phage inactivation follow monopulsive law only up to doses which correspond to survival value of 2×10^{-3}. For larger doses, the survival curve diminishes. Frequency of mutation due to UV radiation follows monopulsive kinetics only up to doses corresponding to sur-vival value of 2×10^{-3}. At larger doses, mutation frequency drops to where it is only 8 times as great as spontaneous background, after which it begins to in-crease slowly. The increase in UV stability at high doses could not be explained

Card 1/2   UDC: 535.31:576.858.9

L 22486-66

ACC NR: AP5024152

by shading or protection from UV irradiation, multiple reactivation, reactivation
by the host, or by genetic or phenotype heterogeneity of population. The observed
decrease in mutation frequency is not related to increased sensitivity of mutants,
reversions, or suppressor mutations. Possible explanations of the observed
phenomena are based on the following: phage DNA has noncritical areas, the pos-
sibility of energy migration between bases of two-spiral DNA, and disruption of
energy migration by UV-quanta which denature DNA locally and cause nonhereditary
damage in the phage.

[BM]

SUB CODE: 06/ SUBM DATE: 16Oct64/ SOV REF: 010/ OTH REF: 034

Card 2/2 bK

(A)

ACC NR: AP6000992   SOURCE CODE: UR/0286/65/000/022/0061/0061

AUTHORS: Kuznetsova, A. G.; Ivanov, V. I.

ORG: none

TITLE: A method for obtaining polymethylphenyl siloxanes. Class 39, No. 176419

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 61

TOPIC TAGS: polymer, siloxane, hydrolysis

ABSTRACT: This Author Certificate presents a method for obtaining polymethylphenyl siloxanes by co-hydrolyzing with water a mixture of organochlorosilanes at a temperature of 50—60C. To simplify the process, 65—80 parts (by weight) of water are taken per hundred weight parts of the organochlorosilane mixture.

SUB CODE: 11/ SUBM DATE: 04Apr63

Card 1/1 HW

UDC: 678.84

IVANOV, V.I., inzh.

Thermal properties of silicon power valves. Vest. TSNII MPS 24
no.6:33-37 '65.   (MIRA 18:9)

IVANOV, V.I., akademik; CHETVERIKOV, N.M.; DZHEKHUBAYEV, K.D.

Mutarotation kinetics of aqueous solutions of monosaccharides.
Dokl. AN SSSR 160 no.1:112-114   Ja '65.

1. AN KirgSSR (for Ivanov).   (MIRA 18:2)

FILONENKO, N.Ye.; IVANOV, V.I.; FEL'DGUN, L.I.

Morphology of cubic crystals of boron nitride. Dok'. AN SSSR 164
no.6:1286-1287 O '65.
(MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut abrazivov i
shlifovaniya. Submitted July 17, 1965.

IVANOV, T.

"Measuring the Quatity of Water in Irrigation Canals", p. 3. (TEKHNICHESKO DELO, Vol. 5, no. 112, Oct. 1953, Sofiya, Bulgaria).

SO: Monthly List of East European Accessions, LC, Vol. 3, No. 4, April 1954.

IVANOV, Teofil

The 7th Annual Conference of the Archaeological Institute of the
Bulgarian Academy of Sciences. Spisanie BAN 7 no.3:101-110
'62.

IVANOV, T.; TOCHEVA, V.

Industrial hygiene at a construction of tunnel aqueduct.
Suvrem. med., Sofia 7 no.4:36-43 1956.

1. Iz Nauchnoizsledovatelskiia institut po trudova khigiena
i profesional. bolesti (Direktor: M. B. Lukanov).
   (CLIMATE,
       microclimate in construciton of tunnel aqueduct (Bul))

)

IVANOV, T.

Voden water-supply group. p. 116

KHIDROTEKHNIKA I MELIORATSII. (Nauchno-teknicheski suliuz v Bulgariia i Ministerstvo na elektrofikatsiiata i vodnoto stopanstvo) Sofia, Bulgaria. Vol. 4, no. 4, 1959

Monthly List of East European Accessions (EEAI), IC, Vol. 8, No. 12, December 1959
Uncl.

IVANOV, T.

"New Type of Universal Gas Pipette for Fast Industrial-Sanitary and
Chemical-Technical Control", P.22, (RATSIONALIZATSIIA, Vol. 3, No. 10/11,
Oct./Nov. 1953, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12,
Dec. 1954, Uncl.

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Bulgaria/Chemical Technology - Chemical Products and Their Application. Fermentation
Industry, I-27

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63589

Author: Ivanov, Trifon

Institution: None

Title: Dynamics of Acids and Sugars in the Process of Ripening of Grapes of
the Varieties Proslava, Muskat Krasnyy and Mavrud

Original
Periodical: Dinamika na kiselinite i zakharite v protsesa na zreyenete na sortovete
Proslava, Cherven misket i Mavrud, Lozarstvo i vinarstvo, 1954, 3,
No 3, 173-177; Bulgarian

Abstract: Tables and graphs are presented which characterize changes in acids
and sugars during ripening of grapes of the varieties Proslava,
Muskat Krasnyy and Mavrud in the 1953 season. Harvesting time is
recommended for Proslava and Mavrud to be used for manufacture of
champaign which requires a high titration acidity.

Card 1/1

TR. Ivanov

BULGARIA / Chemical Technology, Chemical Products and Their   H-26
            Application. Part 3 ⊾ Fermentation Industry.

Abs Jour : Ref. Zhur. Khimiya, No 4, 1958, 12773.

Author   : Tr. Ivanov, St. Gerov, At. Yankov.

Inst   : College Institute of Food and Condiment Industry.

Title   : Study of Champagnization Possibility of Wine Materials of
            Red Muscatel, Proslava and Mavrud Grapes.

Orig Pub : Nauchn. Tr. Vissh. in-t khranit. i vkus. prom-st. Plovdiv,
            1956, 3, 293 - 314.

Abstract : Wine materials of Red Muscatel (RM), Proslava (P) and
            Mavrud (M) grapes were champagnized in bottles. M produces
            champagne wine of the highest quality and P follows it.
            RM wine material one year old blended with older wine ma-
            terial of P and M sorts improves their champagne qualities.

Card 1/2

BULGARIA / Chemical Technology, Chemical Products and Their   H-26
          Application. Part 3 - Fermentation Industry.

Abs Jour : Ref. Zhur. Khimiya, No 4, 1958, 12773.

Abstract : The sorts RM and P are the most suitable for manufacturing
            Bulgarian champagne by using them alone, or blended with M.

Card 2/2

COUNTRY: : Bulgaria   H-27
CATEGORY   :

ABS. JOUR.   : RZKhim., No.22 1959 No.   80075

AUTHOR   : Ivanov, T., Gerov, S., and Ivanova, A.
INST.   : Plovdiv Institute of the Food and Flavors Industry
TITLE   : Mavrud Grapes

ORIG. PUB.   : Nauchni Trudi Vissh Inst Khranit i Vkus Promishlen-
                 ost-Plovdiv, 4, 99-129 (1958)

ABSTRACT   : The authors present data on the mechanical compo-
                 sition of the grapes, the chemical composition of
                 the wort, changes in the composition during ripen-
                 ing, and the effect of external factors on the
                 quality of the grapes.

CARD: 1/1

Ivanov, T.

Country   : BULGARIA   H-27
Category   : Chemical Technology. Fermentation Industry

Abs. Jour   : Ref Zhur-Khimiya, No 14, 1959, No   51411

Author   : Ivanov, T.; Gerov, S.; Yankov, A.
Institute   : —
Title   : Taking Samples from Champagne Bottles

Orig Pub.   : Lozarstvo i vinarstvo, 1958, 7, No 5, 36-38

Abstract   : A pipette for the removal of samples from
              champagne bottles that causes disturbance of
              gas equilibrium, is a small graduated plunger
              type barrel pump having metal tube soldered
              to its lower portion. The latter is connected
              with a rubber tubing with an aphrometer, whose
              needle is introduced into a bottle. The propo-
              sed method of sample taking is applicable in
              the determination of the total and of chemi-
              cally-bound CO_2 in champagnes. -- I.Skurikhin

Card: 1/1

Card:

H - 118

COUNTRY   : Bulgaria   H-27
CATEGORY   :

ABS. JOUR. : RZKhim., No. 5 1960, No.   19787

AUTHOR   : Ivanov, T.
INST.   : Not given
TITLE   : The Production of Champagnes

ORIG. PUB. : Lozarstvo i Vinarstvo, 8, No 2, 42-44 (1959)

ABSTRACT   : The improvement of the quality of the raw materials
             used in champagne production is discussed. The au-
             thor recommends the pressing of Gymza and Mavrud
             grapes in bunches and of red Muscat, Dimyat, and
             Proslava grapes after preliminary processing through
             a Egrapumpa [for stem removal?]. The optimum fermen-
             tation temperature is 14-18° and less than 24°,
             respectively. At the low titrable acidity of the
             must, which is characteristic of Bulgarian grapes,
             the addition of tartaric acid up to 2 gms/liter is

CARD: 1/2   364

IVANOV, T.

"Forest Violatiorns and Their Limitations, p.356.. (GORSKO STOPANSTVO, Vol. 5, no. 8, Oct. 1953. Sofiya, Bulgaria.)

So: Monthly List of East European Accessions, Vol. 3, No. 5, May 1954/Unclassified

IVANOV, T.

Forests of cooperative farms. p. 17.

Vol. 10, no. 11 Nov. 1955
KOOPERATIVNO ZEMEDELIE
Sofiya, Bulgaria

So: Eastern European Accession Vol. 5 No. 1 Jan. 1956

IVANOV, T.

    Infringement of forestry regulations and basic prerequisites for limiting them.
p. 22.

GORAIO STOPANSTVO   VOL. 12, no. 1, Jan. 1956

Sofiya, Bulgaria

so.   EAST EUROPEAN ACCESSIONS LIST   VOL. 5, no. 7,   july 1956

IVANOV T. A. Povesti Reshitel'nuyu Bor'bu S Tekuchest'yu Rabsily, Goryuchiye,

   Slantsy, 1933, No. 5,19.

SO: Goryuchiye Slantey #1934-35 TN. 871 074

IVANOV, T.B.

USSR/Human and Animal Physiology- The Effect of Physical Factors.   T
                  Ionizing Radiation.

Abs Jour   : Ref Zhur Biol., No 3, 1959, 13377

Author   : Drogichina, E.A., Byalko, N.K., Gel'fon, I.A., Ivanof,
                T.B., Osipova, V.G., Stepanova, V.I., Ryzhkova, M.N.,
                Solov'yeva, Ye.A., Tsenterova, L.G.

Inst   : -
Title   : Clinical Aspects of the First Stages of the Chronic
                Effects of Ionizing Radiation on the Organism

Orig Pub   : Gigiyena trudai prof. zabolevaniy, 1958, No 2, 3-8

Abstract   : No abstract.

Card 1/1

IVANOV, Teofil

       International Conference for making a map of the Roman
Empire, held in Budapest. Spisanie BAN 8 no. 3: 101-105
'63.

PA 190T7

IVANOV, T. F.

USSR/Chemistry (Physical) - Equation of   May 51
State

"Equation of the Physical State of Matter Ex-
pressed in Partial Derivatives," T. F. Ivanov,
TsNIL (Cen Sci Res Lab), Gur'yev

"Zhur Fiz Khim" Vol XXV, No 5, pp 538-541

Presents new math treatment of the eq of state
(van der Waals eq) with particular attention to
the thermodynamics of water evapn.

190T7

LC

IVANOV, T. F.

AID P - 539

Subject   : USSR/Engineering

Card 1/1   Pub. 78 - 5/29

Author   : Ivanov, T. F.

Title   : Typical curve of variation of mechanical speed at drilling
              with core drills and its analytical expression

Periodical : Neft. Khoz., v. 32, #7, 20-23, Jl 1954

Abstract   : Development of the analytical expression for maximum
              depth of the drill penetration under consideration of
              slip in the rock, and wear in the teeth of the core
              drill. One chart, 1 table, and 2 Russian references
              (1951-1952).

Institution: None

Submitted : No date

UA NOV, T. F.

Breaking of suds-oil emulsions by a nonuniform magnetic field. T. F. Ivanov (Central Sci. Research Lab. Gur'ev) Zhur. Fiz. Khim. 24, 2093-6 (1950).—Distd. water and crude oil are both diamagnetic and have about equal susceptibilities. If, however, weakly diamagnetic or paramagnetic salts are dissolved in the distd. water, the drops behave like weakly paramagnetic substances. A simple method for breaking emulsions consists in adding to the emulsion an aq. soln. of Fe(II) salt, followed by the addn. of an equiv. amt. of NaOH, or some pptd. Fe, and producing an electromagnetic field. Some lab. results are given on breaking emulsions contg. 36-40% water.   V. M. Steinberg

20-118-1-4/58

AUTHOR: IVANOV, T.F.

TITLE: Asymptotic Solution of the Thomas-Fermi Equation (Asimpto-
               ticheskoye reshenie uravneniya Tomasa-Fermi) ,

PERIODICAL: Doklady Akademii Nauk/SSSR, 1958, Vol 118, Nr 1, pp 20-21 (USSR)

ABSTRACT: The author considers the equation

$$\varphi'' = \frac{\varphi^{1,5}}{x^{0,5}}$$

with the boundary conditions

$$\varphi(0) = 1 \ , \qquad \varphi(x = \infty) = 0 \ , \qquad \varphi'(x = \infty) = 0 \ .$$

The particular solution $\varphi_0 = \dfrac{144}{x^3}$ which satisfies the boun-

dary conditions at infinity is used for the set up

$$\varphi = \frac{144}{x^3 z^4} \ .$$

This leads to the equation

$$z(x^2 z'' - 3z) - xz'(5xz' + 6z) + 3 = 0$$

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Asymptotic Solution of the Thomas-Fermi Equation   20-118-1-4/58

The solution is set up as the series

$$z = 1 + a_1 x^{\alpha} + a_2 x^{2\alpha} + \ldots .$$

The final result is

$$\varphi = \frac{144}{x^3(1+3,316\ x^{-0,772}-0,03067\ x^{-1,544}+0,00831 x^{-2,316} - \ldots \ldots -0,00340\ x^{-3,088})^4}$$

For $0,375 < x < 0,75$ the error does not amount to more than 5% (compared with Bush and Caldwell [Ref.2]) and is extremely small for $x \geq 0,75$. For $x < 0,375$ the formula does not hold. 1 Soviet and 2 foreign references are quoted.

ASSOCIATION: Tsentral'naya nauchno-issledovatel'skaya laboratoriya Ob"yedineniya Kazakhstanneft' (Central Scientific Research Laboratory of the Association of the Kazakhstan Petroleum Industry

PRESENTED: June 24,1957, by A.N. Kolmogorov, Academician
SUBMITTED: April 10,1957
AVAILABLE: Library of Congress
Card 2/2

42105

AUTHOR: Ivanov, T.F.   (Gur'yev)

TITLE: On the periodic motions of some autonomous systems

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.5, 1962: 129-133.

TEXT: The problem is to determine the periodic solutions of certain non-linear differential equations of the type

$$\dot{x} = f(x, A^2) \tag{1.1}$$

(being the first integral of the second order differential equation describing an autonomous system with one degree of freedom), where A^2 is an arbitrary parameter. The particular case

$$\dot{x} = \pm a_0 \sqrt{A^2 - x^2} \left[1 \pm \frac{1}{a_0} \sqrt{A^2 - x^2} \, v(x) \right] \tag{1.2}$$

is studied in detail. To determine the conditions for a periodic

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On the periodic motions of some ...

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E031/E135

solution the solution is followed in the phase space for some fixed value of A^2. In the segment $- A \leqslant x \leqslant A$ the phase trajectory is a non-self-intersecting closed curve corresponding to the periodicity in x at least if in the given segment the inequality

$$ a_o^{-1} \sqrt{A^2 - x^2} \, v(x) < 1 \qquad (- A \leqslant x \leqslant A) \qquad (1.5) $$

is satisfied. All positive discrete values of A^2 for which Eq. (1.5) holds correspond to periodic solutions of Eq.(1.2). The periods can be determined in a manner permitting the estimation of the error (cf. Dokl. AN SSSR, 143, 1962, 2). The theory is applied to the equation for an oscillator with transformer feedback (ignoring grid currents). By similar considerations periodic oscillations, their amplitudes and periods of oscillation, can be determined for oscillators with hard excitation regimes and for oscillators with feedback in the grid circuit.
There are no tables or figures.
SUBMITTED: July 5, 1961.

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35724

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B104/B102

iL.3400
16.6800

AUTHOR: Ivanov, T. F.

TITLE: Determination of periodic movements of conservative systems
with one degree of freedom

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 2, 1962, 297-300

TEXT: The first integral $\dot{x}^2/2 = c - G(x)$ of the differential equation $\ddot{x} + G(x) = 0$ is easy to determine in the elementary way. The determination of the second integral, however, is usually very difficult. In the new method described here, y is replaced by $x - x_0$, and the equation of oscillation is written as $\ddot{y} + G(y + x_0) = 0$, where $x_0 = $ const. The first integral of this equation is represented by

$$\dot{y}^2 = n^2(A^2 - y^2) - n^2(A^2 - y^2) + c - 2G(y + x_0) \qquad (2a),$$

or

$$\dot{y} = \pm n\sqrt{A^2 - y^2}\sqrt{1 - Q(y)}, \qquad (2b),$$

where

$$Q(y) = 1 - [c - 2G(y + x_0)]/n^2(A^2 - y^2); \qquad (3),$$

where n is a real constant, and A is the maximum deviation of the system

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Determination of periodic ...

from the point x_0. It can be seen from (2b) that the phase trajectory in the $y\dot{y}$ phase plane forms a non-intersecting, closed curve if $-A \leqslant y \leqslant A$. Supposing $G(y + x_0)$ is a polynomial, one obtains

$$t + \varphi_0 = -\frac{1}{n} \int_{-A}^{A} \left[1 + \frac{Q(y)}{2} + \frac{3}{8} Q^2(x) + \cdots \right] \frac{dy}{\sqrt{A^2 - y^2}} \quad (8)$$

for the second integral of the equation of oscillation. If k terms of (8) are used for the approximate integration of (2b) and if the partial sum is denoted by $S(k)$, one obtains

$$\frac{1}{\sqrt{1 - Q(y)}} - S(k) = \sum_{i=k}^{\infty} \gamma_i Q^i(y) \quad (9),$$

where γ_i are the binomial coefficients, and Q_m and S_m are the maximum values of $Q(y)$ and $S(k)$. Therefrom one obtains

$$[1/\sqrt{1 - Q_m} - S_m] \, Q^k(y) / Q_m^k \geqslant 1/\sqrt{1 - Q(y)} - S(k) \geqslant 0. \quad (10)$$

if $0 \leqslant Q(y) < 1$. It is thus possible to estimate the error in the approxima-

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tion integration of the equation of oscillation with the aid of (8), and to plot the oscillation curve in the (x,t) plane. The error of the oscillation period determined in this manner is determined, and the equation $\ddot{x} + \alpha_0 + \alpha_1 x + \alpha_3 x^3 = 0$ is analyzed as an example. There are 2 Soviet references.

PRESENTED: March 21, 1961, by L. I. Sedov, Academician

SUBMITTED: March 21, 1961

Predstavleno akademikom L. I Sedovym.

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